Abstract

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Title of diploma thesis: Production of secreted aspartic proteinases by pathogenic yeasts

The objective of this thesis was to identify the effect of farnesol as a quorum sensing molecule, which facilitates intracellular communication of Candida albicans, on the production of secreted aspartic proteinases (Sap).
The theoretical section summarizes the morphology of Candida, the virulence factors, the illnessess cause by Candida and its treatment. A separate chapter focuses on secreted aspartic proteinases and on farnesol.
The strains tested came from clinical isolates belonging to the Clinical Microbiology Institute of FN Hradec Kralove; two further strains were collected as well (10231 and 25188). The ATCC 10231 strain, which did not show farnesol production but the production of farnesol acid, was included in the test.
Special media contained a source of bovine hemoglobin as the only source of nitrogen and had differing pHs. The strains were first pre-incubated to exogenous farnesol and later transfered to test media at various different concentrations of farnesol. The results were read after seven days of incubation at a temperature of 37 °C in a damp chamber.
The experimental section of the thesis did not verify that differing concentrations of farnesol influenced the production of Sap, not even following previous adaptation of the material.

Key words: *Candida albicans,* secreted aspartic proteinases, farsenol